

IMPACT OF MRI DEFECOGRAPHY ON CLINICAL EVALUATION AND SURGICAL MANAGEMENT OF PELVIC ORGAN PROLAPSE

Hypothesis / aims of study

There has been an increasing use of MRI defecography (MRID) in the past few years for the evaluation of pelvic organ prolapse (POP). This test can improve the accuracy of POP staging compared to physical examination (PE) or traditional MRI by being a dynamic imaging modality with Valsalva maneuver and defecographic phase with rectal ultrasonographic gel. Its clinical utility in the decision for surgical treatment has yet to be demonstrated. We evaluated the difference in surgical management based on PE or MRID in patients with POP.

Study design, materials and methods

After institutional review board approval, we identified all patients who underwent MRID for the evaluation of POP from 2011 to 2014 at our institution. The design of the study was similar to the VALUE study [1]. A blinded fellowship trained FPMRS urologist reviewed all charts. Presence of stage I–II or III–IV cystocele, uterine or apical descent, enterocele or rectocele was assessed according to POP–Q staging that was noted on PE. The degree of confidence in the accuracy of staging for each type of POP was graded on a scale from 1 to 5, 5 being extremely confident. The reviewer selected the indicated surgical treatment and their degree of confidence that this was the best treatment. The same process was repeated using the result of MRID only [2]. POP staging and treatment plan chosen upon PE or MRID were compared. Primary outcome was to assess a change in the surgical plan with MRID. Secondary outcome was to assess a difference in POP staging with MRID.

Results

A total of 54 patients underwent MRID for the evaluation of POP. The surgical plan based on MRID was different in 7 patients (13.0%) compared to PE alone. In 6 of these patients, the route of surgery was changed from vaginal to robotic surgery after MRID. This decision was based on a more significant descent of the vault or presence of enterocele on MRID compared to what was assessed on PE. The degree of confidence that this was the best treatment was statistically higher after MRID (Table 1). MRID upstaged the stage of cystocele in 17 patients (33.3%), identified vault descent that was missed on PE in 9 patients (16.7%), enterocele in 9 patients (16.7%) and rectocele in 19 patients (35.2%). The degree of confidence in prolapse staging was statistically higher after MRID compared to PE alone (Table 1).

Interpretation of results

Our results suggest that in addition to changing the surgical management in 7 patients, MRID improved the accuracy of prolapse staging compared to PE alone and, therefore, the surgeon's confidence in selecting the best surgical option. The test helped to identify prolapse that were missed on physical exam, especially vault prolapse and enterocele. This influenced the physician to change the clinical diagnosis and to change the route of surgery in a few patients. This improved the physician confidence in prolapse staging and selection of the best surgical option for the patient.

Concluding message

Although the surgical management of POP changed in a small number of patients after MRI defecography, this test improved the degree of confidence in selecting the best surgical option for patients with POP. MRID also improved the accuracy of POP staging compared to PE alone, upstaged the stage of cystocele, identified prolapse missed on PE and increased the physician confidence in diagnosis.

Table 1: Degree of confidence of prolapse staging and choice of treatment (ranked 1 to 5, 5 extremely confident)

	Physical Examination	MRID	P value
Cystocele stage I or II, Mean (\pm SD) N=54	4.28 (0.69)	4.87 (0.48)	<0.0001
Cystocele stage III or IV, Mean (\pm SD) N=54	4.19 (0.65)	4.96 (0.19)	<0.0001
Vault prolapse, Mean (\pm SD) N=45	4.07 (0.75)	4.89 (0.38)	<0.0001
Enterocele/Peritoneocele, Mean (\pm SD) N=54	3.63 (0.85)	4.98 (0.13)	<0.0001
Rectocele, Mean (\pm SD) N=54	4.17 (0.64)	4.91 (0.45)	<0.0001
Uterine prolapse, Mean (\pm SD) N=9	4.67 (0.71)	5.00 (0.00)	0.195
Best treatment, Mean (\pm SD) N=54	3.96 (0.47)	4.89 (0.32)	<0.0001

References

1. Nager CW, Brubaker L, Litman HJ et al. A randomized trial of urodynamic testing before incontinence surgery. NEJM 2012; 366:1987-97
2. Bailey A, Kumar N, Bacsu C, Khatri G, Christie A, Zimmern P: MRI Defecography: Influence of Rectal Gel Volume on Study Performance in women with symptomatic pelvic organ prolapse. Abstract. Neurourol Urodyn 2013; 32(6).

Disclosures

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